CLAIMS

What is claimed is:

1. A substrate comprising:

a first conductive layer;

a second conductive layer substantially electrically isolated from the first conductive layer;

a via for connecting a portion of the first conductive layer to a portion of the second conductive layer, wherein the via further comprises:

a first plate, a first electrical path from the first conductive layer to the first plate; and

a second plate, a second electrical path from the second conductive layer to the second plate.

2. The substrate of claim 1 wherein the first plate and the second plate form a capacitor.

3. The substrate of claim 1 wherein the first plate includes a curved surface.

4. The substrate of claim 3 wherein the second plate includes a curved surface.

5. The substrate of claim 4 wherein the first plate and the second plate form a capacitor.

6. The substrate of claim 4 wherein the curve of the first plate and the curve of the second plate are substantially coaxial.

7. The substrate of claim 4 wherein a concave portion of the first plate faces a concave portion of the second plate.

8. The substrate of claim 2 wherein the first plate and the second plate are separated by a dielectric material.

9. A substrate comprising:

a first conductive layer;

a second conductive layer substantially electrically isolated from the first conductive layer;

a via for connecting a portion of the first conductive layer to a portion of the second conductive layer, wherein the via further comprises:

a first portion within the via, a first electrical path from the first conductive layer to the first portion; and

a second portion within the via, a second electrical path from the second conductive layer to the second portion.

10. The substrate of claim 9 wherein the second portion includes a substantially cylindrical shell of conductive material enclosed within the via.

11. The substrate of claim 9 further comprising a dielectric material positioned between the first portion and the second portion includes.

12. A substrate comprising:

a first conductive layer;

a second conductive layer substantially electrically isolated from the first conductive layer; and

a via for connecting an electrical portion of a circuit on the first conductive layer to an electrical portion of a circuit on the second conductive layer, wherein the via further comprises:

a first magnetizable portion lining the via;

an electrical path from the first conductive layer to the second conductive layer; and

an insulator separating the first magnetizable portion from the electrical path.

13. The substrate of claim 12 wherein the first magnetizable portion includes a soft magnetic material.

14. The substrate of claim 12 wherein the first magnetizable portion includes ferrite.

15. A method for forming an electrical device comprising:

forming via between a first layer of conductive material and a second layer of conductive material;

lining the via with a conductive material;

connecting the lining to a first conductive layer;

forming a conductor through the via;

connecting the conductor to the first conductive layer;

connecting the lining to the second conductive layer; and

insulating the lining in the via from the conductor in the via.

16. The method of claim 15 wherein lining the opening with material includes etching the bottom of the opening.

17. The method of claim15 wherein lining the opening with a material includes lining the opening with a magnetizable material.

18. The method of claim 15 wherein lining the opening includes lining the opening with conductive material.

19. A method for forming a device within a via comprising:

forming a via;

depositing a first layer of conductive material on inside surface of the via;

removing a portion of the deposited first layer of conductive material;

depositing a dielectric material onto the remaining portion of the conductive material and onto the inner surface of the via;

removing a second portion of the dielectric material; and

depositing a second layer of conductive material.

20. The method of claim 19 wherein removing a portion of the deposited first layer includes etching.

21. The method of claim 19 wherein removing a portion of the deposited insulative material includes etching.

22. The method of claim 19 wherein the amount of dielectric material provides an insulator between the first conductive layer and the second conductive layer.

23. A method of forming a device in a via of a substrate comprising:

forming a via;

depositing a first pad having a portion associated with the via;

depositing a second pad having a portion associated with the via, the first pad electrically isolated from the second pad;

filling the via with a resistive material.

24. The method of claim 23 wherein depositing the first pad and depositing the second includes placement proximate a single surface of the substrate.

25. The method of claim 23 wherein depositing the first pad includes placement proximate a first surface of the substrate and depositing the second includes placement proximate a second surface of the substrate.

26. The method of claim 23 wherein the filling the via with a resistive material includes selecting the resistivity of the material to select the resistance across the via.

27. A method comprising:

forming a via in a substrate; and

forming at least a portion of an electrical component in the via in the substrate.

28. The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming a resistor.

29. The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming a capacitor.

30. The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming a core.

31. The method of claim 27 wherein forming at least a portion of an electrical component in the via includes forming at least a portion of a transformer.